

**REMARKS**

Claims 38-70, 111, 113-124, 126-137, 139-150, 152-163, 165-177, 179-191, 193-205, and 207-218 are pending in the application.

Claims 38-70, 111, 113-124, 126-137, 139-150, 152-163, 165-177, 179-191, 193-205, and 207-218 stand rejected.

Claim 38 stands rejected under 35 U.S.C. § 112, second paragraph. Claims 38-52 and 55-68 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,649,108 issued to Spiegel et al. ("Spiegel"). Claims 111, 113-124, 126-137, 139-150, 152-163, 165-177, 179-191, 193-205, and 207-218 stand rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,490,246 issued to Fukushima et al. ("Fukushima"). Claims 126-136, 139-149, 179-190, and 193-204 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Fukushima. Claims 53, 69, and 70 stand rejected under § 103(a) as being unpatentable over Spiegel in view of Fukushima.

The above amendments add no new matter. Support for the amendments may be found, for example, on pp. 34 and 35 of the Specification as originally filed. Applicant respectfully submits that the pending claims are allowable in view of the above amendments and the remarks presented herein.

**Rejection of Claim 54**

The Office Action Summary (p. 1 of the Office Action) includes claim 54 among the list of rejected claims, but the Office Action does not appear to provide grounds for this rejection.

Applicant understands the indication regarding claim 54 to be the result of a clerical error. Applicant respectfully submits that claim 54 is allowable, and requests a notice of this allowability.

If the Examiner provides grounds for the rejection of claim 54, Applicant respectfully notes that those grounds must be presented in a subsequent non-final Office Action, in accordance with § 706.07(a) of the *Manual of Patent Examining Procedure* (Ed. 8, Rev. 6, Sep. 2007) (“MPEP”), since the new ground of rejection would not be necessitated by Applicant’s amendment of the claims or a suitable Information Disclosure Statement, and so that Applicant may have a full opportunity to respond to the rejection.

**Rejections under § 112, second paragraph**

Claim 38 stands rejected under § 112, second paragraph. Applicant has amended independent claim 38. Applicant respectfully submits that, as amended, claim 38 is allowable under § 112, second paragraph. Accordingly, Applicant respectfully requests that the rejection under § 112, second paragraph be withdrawn.

**Rejections under § 102(b) over Spiegel**

Claims 38-52 and 55-68 stand rejected under § 102(b) as being anticipated by Spiegel. Applicant respectfully submits that the claims are allowable because the cited portions of the reference fail to disclose each limitation of the claims.

For example, amended independent claim 38 recites:

38. A method comprising:  
 transmitting a protocol packet from an origin node to a target node, wherein  
     said protocol packet is sent from an origin node to a target node,  
     said protocol packet is broadcast to a plurality of neighbors of said origin node to  
     find said target node,  
     said protocol packet is configured to record a protocol packet path history from  
     said origin node to said target node, and  
     said protocol packet path history comprises information regarding a topology of at  
     least a portion of said network.

(Emphasis added.)

The cited portions of Spiegel do not disclose, or fairly suggest, the transmission of a protocol packet that “is broadcast to a plurality of neighbors of said origin node to find said target node.” At best, Spiegel states, in relevant part:

Each node prepares a connection setup packet in response to receipt of a request from a host terminal or an adjacent node. As illustrated in FIG. 3, the connection setup packet contains a plurality of fields 30 through 38 for respectively setting a source address, a destination address, a VCI, a source route (which is a list of those nodes that the connection setup packet should pass through to establish a connection) and a record route (which is a list of those nodes through which the connection has already been established).

(Spiegel at 5:63—6:4.)

This passage indicates that a particular list of recommended nodes is used for establishing a connection between a source node and a destination node (e.g., nodes A and G in FIG. 1 of Spiegel, as discussed in 10:11-20). This list of nodes is included in the source route field (33) of the connection setup packet. In one example, the list of nodes is “A-B-D-E-G.” (Spiegel at 10:24-32 and 10:56-59.) The connection setup packet follows this prescribed list as far as possible. Thus, the connection packet is sent to only one node that connects to Spiegel’s source node, for example, from source node A to connecting node B (Spiegel at 10:46-50). This single transmission does not qualify as a “broadcast to a plurality of neighbors.”

Upon failure of the recommended nodes to provide a desired connection in Spiegel, a new packet may later be generated and transmitted along a new path of newly recommended nodes. (See, e.g., Spiegel at 11:55—12:17.) However, this subsequent transmission is also not a “broadcast to a plurality of neighbors.”

The cited portions of Spiegel thus fail to disclose or fairly suggest the transmission of a protocol packet that “is broadcast to a plurality of neighbors of said origin node to find said target node.” At least for this reason, independent claim 38 and all claims dependent therefrom are allowable under § 102(b).

**Dependent claims 40-48, 52, and 66-68.**

The Office Action does not address each limitation of claims 40-48, 52, and 66-68, which stand rejected under § 102(b). On p. 4, the Office Action simply asserts that the limitations of these claims “have been addressed in claim 38.” Applicant notes that a number of limitations in claims 40-48, 52, and 66-68 are not addressed in the Office Action’s discussion of claim 38, or in

any other part of the Office Action. For example, claim 40 sets forth the use of “a flush indicator field.” This limitation is simply not discussed in the Office Action.

The Office Action thus fails to establish that each of the limitations of claims 40-48, 52, and 66-68 are present in the cited reference because the Office Action simply does not discuss the limitations set forth in these dependent claims. At least for this reason, the Office Action fails to establish that claims 40-48, 52, and 66-68 are anticipated by the cited portions of the reference.

If the Examiner maintains the rejections of these claims by introduces new grounds of rejection, Applicant respectfully notes that those grounds must be presented in a subsequent non-final Office Action, in accordance with MPEP § 706.07(a), since the new grounds of rejection would not be necessitated by Applicant’s amendment of the claims or a suitable Information Disclosure Statement, and so that Applicant may have a full opportunity to respond to the rejection.

**Rejections under § 102(e) over Fukushima**

Claims 111, 113-124, 126-137, 139-150, 152-163, 165-177, 179-191, 193-205, and 207-218 stand rejected under § 102(e) as being anticipated Fukushima. Applicant respectfully submits that the claims are allowable because the cited portions of the reference fail to disclose each limitation of the claims.

**Independent claims 111, 124, 137, and 150.**

For example, independent claim 111 recites:

111. A method of processing a get link state advertisement packet comprising:  
 receiving said get link state advertisement packet at a downstream node, wherein  
     said get link state advertisement packet is sent by a sending node,  
     said get link state advertisement packet comprises at least one node identifier,  
     said at least one node identifier identifies a node in a network for which said  
     sending node seeks a link state advertisement, and  
     said downstream node and said sending node are nodes in said network;  
 sending at least one link state advertisement from said downstream node to said sending  
     node; and  
 sending an acknowledgement of said at least one link state advertisement to said  
     downstream node.

(Emphasis added.)

The cited portions of Fukushima do not disclose, or fairly suggest, that at least one node identifier identifies “a node . . . for which said sending node seeks a link state advertisement.”

With regard to this limitation, the Office Action on pp. 2 and 5 cites the following portions of Fukushima:

If a router receives a Hello packet, which includes its own ID, from another router that the router has been aware of, on the understanding that the two routers have become aware of each

other, the two routers exchange network link-state information by sending routing protocol packets.

Network link-state information includes the ID of the advertising router, the identity of the network to which the advertising router is connected, the addresses of the interfaces through which the advertising router is connected to the networks, and the costs of the interfaces. The cost of an interface means the cost which is incurred when the interface is used to forward packets and which is set by the network administrator.

(Fukushima at 1:55-67.)

Meanwhile, each router, while it transmits or receives Hello packets and network link-state information, manages the states of other routers on the network to which this router is connected and also manages the states of the interfaces through which this router is connected to networks. With regard to the states of routers, each router manages the routers' ID's, and checks if each of those routers is aware of this router, or checks if each of those routers has completed the transmission and reception of network link-state information. With regard to interface state, each router manages the addresses of the interfaces and other routers connected to a network to which an interface is connected.

A list of other routers, which is included in a Hello packet, is prepared according to the states of routers and the states of interfaces mentioned above.

Each router monitors the active modes of the other routers according to information from Hello packets it receives. More specifically, if there is any other router from which the router has not received Hello packets for longer than a fixed period, the router decides that a failure has occurred in this other router.

(Fukushima at 2:10-32.)

These passages from Fukushima teach that routers can transmit Hello packets and that two routers can exchange network link-state information by sending routing protocol packets. This network link-state information includes the ID of the advertising router, the identity of the network to which the advertising router is connected, the addresses of the interfaces through which the advertising router is connected to the networks, and the costs incurred when the

interface is used to forward packets. These cited passages from Fukushima also teach that each router checks if each other router on the network, to which the router is connected, is aware of the router, or checks if each of those routers has completed the transmission and reception of network link-state information.

However, these teachings fall short of disclosing the limitations of Applicant's claim 111. In particular, there is no indication in Fukushima that the Hello packet identifies a node for which a sending node seeks a link state advertisement.

As set forth on p. 17 of Applicant's originally filed Specification, one implementation of a link state advertisement describes the state of a node's links. For example, the link state advertisement may contain "a list of the node's neighbors, links, the capacity of those links, the quality of service available on over links, one or more costs associated with each of the links, and other pertinent information."

Even if the Fukushima system employs a link state advertisement (and Applicant does not concede this point), the cited passages do not disclose that a node seeks a link state advertisement from a particular other node through the cited Hello packets (or through any other packets). More particularly, the cited material does not teach that the Fukushima Hello packets (or any other packets) are employed by a sending node to seek a link state advertisement from another node. And further, the cited material certainly does not teach that the Hello packets (or any other packets) identify the node "for which said sending node seeks a link state advertisement." These limitations are therefore absent from Fukushima.



At least for these reasons, independent claim 111 and all claims dependent therefrom are allowable under § 102(e). At least for similar reasons, independent claims 124, 137, and 150, and all claims dependent therefrom are also all allowable under § 102(e).

**Independent claims 163, 177, 191, and 205.**

As another example, independent claim 163 recites:

163. A method comprising:  
 receiving a hello packet at a downstream node, wherein said hello packet comprises a link state advertisement;  
 processing said link state advertisement, wherein processing said link state advertisement includes sending said link state advertisement from said downstream node; and sending an acknowledgement from said downstream node, wherein said acknowledgement acknowledges all link state advertisements in said hello packet.

(Emphasis added.)

Claim 163 includes receiving a hello packet at a downstream node. The received hello packet includes a link state advertisement. Claim 163 also includes limitations of “processing said link state advertisement,” which includes sending the link state advertisement “from said downstream node.” Claim 163 also includes sending an acknowledgement “from said downstream node.” With regard to these limitations, the Office Action cites features of FIG. 8 and the following passages from Fukushima:

The RP packet transmission-reception module 14, when it is started, transmits routing protocol packets, such as Hello packets, onto the networks directly connected to the multiplex router 10, and receives routing protocol packets from other routers (step 121). If a received packet has come from a neighboring router, the module 14 checks whether the presence of which has been or has not been recognized (step 122). If the presence of which has not been recognized, the module 14 notifies the protocol information manager module 15 of the newly-detected neighboring

router (step 123). If the presence of which has been recognized (step 124), the module 14 sends this network link-state information to the protocol information manager module 15 (step 125).

FIG. 9 shows the procedure of the process steps of the protocol information manager module 15 in the route calculation unit 11 in the active mode.

(Fukushima at 10:19-34.)

The Office Action appears to equate Applicant's link state advertisement with Fukushima's routing protocol packet, and to equate Applicant's downstream node with Fukushima's multiplex router 10. Even if this characterization of Fukushima is correct (and Applicant does not concede this point), the cited portions of the references fail to disclose each limitation of claim 163.

The above-quoted portions of Fukushima, and the accompanying features in the figures, teach that a multiplex router 10 can transmit routing protocol packets, such as Hello packets, onto the networks directly connected to the multiplex router 10, and can receive routing protocol packets from other routers. However, these passages do not describe any other transmission between routers. The material on which the Examiner relies is merely a description of messages within a particular router: it discusses various communications within multiplex router 10. For example, transmission-reception module 14 notifies protocol information manager module 15 of a newly-detected router. Module 14 also sends network link-state information to module 15. However, reference to Fukushima's FIG. 1 and 2 clearly show that these latter communications are wholly within multiplex router 10, which the Office Action equates with Applicant's downstream node. Thus, these cited communications could not, and would not, be seen by a person having ordinary skill in the art as being communications "from" Applicant's downstream node. Accordingly, they do not meet Applicant's limitations of "sending said link state

advertisement from said downstream node” and “sending an acknowledgement from said downstream node.”

At least for these reasons, Applicant respectfully submits that independent claim 163 and all claims dependent therefrom are allowable under § 103(a). At least for similar reasons, independent claims 177, 191, and 205 and all claims dependent therefrom are also allowable under § 103(a).

**Dependent claims 113-123, 152-162, 165-176, and 207-218.**

The Office Action is silent regarding the limitations of Applicant’s dependent claims 113-123, 152-162, 165-176, and 207-218, which stand rejected under § 102(e). The Office Action merely states on p. 6 that these claims “are rejected because they depend on their parent claims.” The Office Action appears to have misapplied the standards of patentability under § 102(e) with regard to these claims.

The rejections of these claims are improper because they are not supported by any valid reasoning under §§ 102(e). In particular, the Office Action does not even appear to assert that any of the limitations of the dependent claims may be found in the cited reference. Applicant respectfully submits that these dependent claims are allowable under § 102(e), because the Office Action fails to set forth any reasoning in support of these rejections, and further because Applicant does not find the limitations of these claims in the cited portions of the references.

If the Examiner provides grounds for the rejections of claims 113-123, 152-162, 165-176, and 207-218, Applicant respectfully notes that those grounds must be presented in a subsequent non-final Office Action, in accordance with MPEP § 706.07(a), since the new grounds of rejection would not be necessitated by Applicant’s amendment of the claims or a suitable

Information Disclosure Statement, and so that Applicant may have a full opportunity to respond to the rejection.

**Dependent claims 126-136, 139-149, 179-190, and 193-204.**

The Office Action states on p. 4 that claims 126-136, 139-149, 179-190, and 193-204, are among the claims rejected under § 102(e) as being anticipated by Fukushima. However, the Office Action does not provide any support for the § 102(e) rejections of these claims, and does not cite any portions of the reference as teaching the limitations of these claims. (These claims are also under rejection based on § 103(a); those rejections are discussed separately below.)

Applicant respectfully submits that claims 126-136, 139-149, 179-190, and 193-204 are patentable under § 102(e) by virtue of having limitations that are not disclosed in Fukushima.

If the Examiner provides arguments supporting the § 102(e) rejections of claims 126-136, 139-149, 179-190, and 193-204, Applicant respectfully notes that those arguments must be presented in a subsequent non-final Office Action, in accordance with MPEP § 706.07(a), since the new grounds of rejection would not be necessitated by Applicant's amendment of the claims or a suitable Information Disclosure Statement, and so that Applicant may have a full opportunity to respond to the rejection.

**Rejections under § 103(a) over Fukushima**

The Office Action states on p. 6 that claims 126-136, 139-149, 179-190, and 193-204 stand rejected under § 103(a) as being unpatentable over Fukushima. However, the Office Action is silent regarding the limitations of Applicant's dependent claims 126-136, 139-149, 179-190, and 193-204. The Office Action merely states on p. 6 that these claims "are rejected

because they depend on their parent claims.” The Office Action appears to have misapplied the standards of patentability under § 103(a) with regard to these claims.

The rejections of these claims are improper because they are not supported by any valid reasoning under § 103(a). In particular, the Office Action does not even appear to assert that any of the limitations of the dependent claims may be found in the cited references. Applicant respectfully submits that these dependent claims are allowable under § 103(a), because the Office Action fails to set forth any reasoning in support of these rejections, and further because Applicant does not find the limitations of these claims in the cited portions of the references.

If the Examiner provides grounds for the rejections of claims 126-136, 139-149, 179-190, and 193-204, Applicant respectfully notes that those grounds must be presented in a subsequent non-final Office Action, in accordance with MPEP § 706.07(a), since the new grounds of rejection would not be necessitated by Applicant’s amendment of the claims or a suitable Information Disclosure Statement, and so that Applicant may have a full opportunity to respond to the rejection.

**Rejections under § 103(a) over Spiegel and Fukushima**

Claims 53, 69, and 70 stand rejected under § 103(a) as being unpatentable over Spiegel in view of Fukushima. Applicant respectfully submits that the claims are allowable because the cited portions of the reference fail to disclose each limitation of the claims, and because that which the Examiner asserts to be well known is not.

First, Applicant notes that the shortcomings of Spiegel discussed above with respect to independent claim 38 are not remedied in Fukushima. Thus, the above remarks regarding claim 38 apply with equal force to claims 53, 69, and 70, which depend on claim 38.

In addition, the Office Action asserts on p. 6 that certain features of Applicant's claims are "well-known." Applicant respectfully submits that the teachings in question are not sufficiently well known for the application of Official Notice.

In particular, Applicant disagrees with the assertion on p. 6 of the Office Action that:

it is well-known skill in the art that when a link or router is down, a protocol packet such as a link down packet is transmitted to the sender router to notify that the router has been down.

Applicant respectfully submits that that which the Office Action asserts to be well-known is not. Applicant respectfully submits that the rejection that relies on this assertion of "well-known" features is ungrounded. (If it is the Examiner's position that the rejection is based on a personal knowledge that these limitations are well-known, Applicant requests that the facts be supported by an affidavit from the Examiner in accordance with MPEP § 2144.03(C) and 37 C.F.R. § 1.104(d)(2).) Applicant's claims 69 and 70 are therefore patentable under § 103(a).

**CONCLUSION**

Applicant submits that all claims are now in condition for allowance, and an early notice to that effect is earnestly solicited. Nonetheless, should any issues remain that might be subject to resolution through a telephonic interview, the Examiner is requested to telephone the undersigned.

If any extensions of time under 37 C.F.R. § 1.136(a) are required in order for this submission to be considered timely, Applicant hereby petitions for such extensions. Applicant also hereby authorizes that any fees due for such extensions or any other fee associated with this submission, as specified in 37 C.F.R. § 1.16 or § 1.17, be charged to deposit account 502306.

Respectfully submitted,



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